

contacting a gene with a probe to generate an electrochemical response; and
detecting the electrochemical response

wherein the probe comprises a cyclic ligand containing^a ferrocenyl group and a DNA
threading intercalating moiety.

2 ~~17~~. (New) A device for detecting a highly ordered structural site of a nucleic
acid of a gene using a probe, the device comprising:

a container,

a solution for dissolving the probe, the solution being held in the container,

a working electrode modified with a gene, the working electrode dipped in the
solution in the container, and

a counter electrode dipped in the solution in the container

wherein the probe comprises a cyclic ligand containing^a ferrocenyl group and a DNA
threading intercalating moiety.

3 ~~18~~. (New) A method for detecting a highly ordered structural site of a nucleic
acid of a gene, the method ~~of~~ comprising:

contacting a gene with a probe to generate an electrochemical response; and
detecting the electrochemical response

wherein the probe comprises a cyclic ligand containing^a ferrocenyl group and a DNA threading intercalating moiety wherein the cyclic ligand further comprises two linker moieties each having two terminal amino groups, ^{and wherein} each linker moiety ^{is} being connected with the DNA threading intercalating moiety through one of said terminal amino groups, and each linker moiety ^{is} being connected with the ferrocenyl group through the other of said terminal amino groups.

4 ~~19~~ (New) A device for detecting a highly ordered structural site of a nucleic acid of a gene using a probe, the device comprising:

a container,

a solution for dissolving the probe, the solution being held in the container,

a working electrode modified with a gene, the working electrode dipped in the solution in the container, and

a counter electrode dipped in the solution in the container

wherein the probe comprises a cyclic ligand containing^a ferrocenyl group and a DNA threading intercalating moiety wherein the cyclic ligand further comprises two linker moieties each having two terminal amino groups, ^{and wherein} each linker moiety ^{is} being connected with the DNA threading intercalating moiety through one of said terminal amino groups, and

A2 ✓ each linker moiety ^{is} being connected with the ferrocenyl group through the other of said terminal amino groups.

[illegible]